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10/612,639	07/01/2003	Hwan-Seok Choe	4611-023	3638

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GOTTLIEB RACKMAN & REISMAN PC
270 MADISON AVENUE
8TH FLOOR
NEW YORK, NY 100160601

EXAMINER

RAABE, CHRISTOPHER M

ART UNIT PAPER NUMBER

2879

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/612,639

Applicant(s)

CHOE ET AL.

Examiner

Christopher M. Raabe

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 07/01/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1-5,7-15,17,19,20,22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dossot et al. (US Patent 5818159) in view of Park (US Patent 6404118).

With regard to claim 1,

Dossot et al. disclose a deflection yoke (column 1, line 4) comprising: a coil separator having a screen portion, a neck portion, and a connection portion coupled between the screen portion and the neck portion (column 2 line 59, and figure 5), and having at least one protrusion formed on at least one of the screen portion and the neck portion to couple the vertical deflection coil to the coil separator (column 3, line 10, and 13, 33 of fig 4); a horizontal deflection coil disposed on an inside of the coil separator to generate a horizontal magnetic field (column 2, lines 56-57, and 3 of fig1); a vertical deflection coil disposed on an outside of the coil separator to generate a vertical magnetic field (column2, lines 57-58, and 4 of fig 1), and a ferrite core disposed on the vertical deflection coil to strengthen the vertical magnetic field (column 2, lines 13-14, and 5 of fig 1). Dossot et al. do not disclose a pin hole formed on a position corresponding to the at least one protrusion inserted into the pin hole. Park does

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disclose a pin hole formed on a position corresponding to the at least one protrusion inserted into the pin hole (column 6, lines 33-36). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the pin hole, as disclosed by Park, into which may be inserted the protrusion disclosed in Dossot et al. in order to firmly fix the vertical coil (column 5, line 56 of Park).

With regard to claim 2,

Dossot et al. disclose a deflection yoke, wherein the vertical deflection coil comprises a screen bent portion (10 of fig 2), the coil separator comprises a support formed on the screen portion to support the screen bent portion (20, 12 of figure 4), and the at least one protrusion of the coil separator is coupled to an upper portion of the screen bent portion of the vertical deflection coil so as to attach the vertical deflection coil to the coil separator (13 of figure 4).

With regard to claim 3,

Dossot et al. disclose the deflection yoke, wherein the at least one protrusion comprises: an inclined surface inclined with respect to a direction in which the vertical deflection coil is mounted on the coil separator (surface of more negative z-coordinate of 13 of figs 3,4); and a coupling surface preventing the vertical deflection coil from being released from the at least one protrusion (surface of more positive z-coordinate of 13 of figs 3,4).

With regard to claim 4,

Dossot et al. disclose the deflection yoke, wherein the at least one protrusion comprises first (13 of fig 4) and second sub-protrusions (33 of fig 4) formed on the screen portion and the neck portion of the coil separator, respectively. As stated previously in the rejection of claim 1, Dossot et al. do not disclose pin holes corresponding to the protrusions, whereas Park does disclose pin holes corresponding to the protrusions. Utilizing the reasoning stated in the rejection of claim 1, it would have been obvious to one of ordinary skill at the time of the

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invention to incorporate the pin holes corresponding to protrusions disclosed by Park into the deflection yoke of Dossot et al. in order to firmly fix the vertical coil (column 5, line 56 of Park).

With regard to claim 5,

Dossot et al. disclose the deflection yoke of claim 4, wherein the coil separator comprises first and second supports formed on the screen portion (portion of 2 of fig3 to which 13 of fig3 is attached) and the neck portion of the coil separator (14 of fig 4), respectively, and the first and second sub-protrusions are formed on a lower surface of the first support (13 of fig 4) and an upper surface of the second support (33 of fig 4), respectively.

With regard to claim 7,

Dossot et al. disclose a deflection yoke comprising: a coil separator having a screen portion, a neck portion, and a connection portion formed between the screen portion and the neck portion (2 of fig 1), and having at least one support (14,33 of fig 4); and a vertical deflection coil disposed on the coil separator to generate a vertical magnetic field (4 of fig 4). Dossot et al. do not disclose the support having a protrusion, nor the vertical deflection coil having at least one pin hole which is formed on a position corresponding to the at least one protrusion and through which the protrusion of the coil separator is coupled to the vertical deflection coil. Park does disclose the support having a protrusion (column 6, lines 58-59, and 45,46 of fig 10), and the member to be supported having a pinhole (30,32 of fig 10) corresponding to a protrusion (column 6, lines 33-36). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the protrusion and the pin hole, as disclosed by Park, into the deflection yoke of Dossot et al. in order to firmly fix the vertical coil (column 5, line 56 of Park).

With regard to claim 8,

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Dossot et al. disclose the deflection yoke, wherein the vertical deflection coil comprises a plurality of vertical deflection sub-coils (column 2, lines 57-58), and a plurality of supports to hold in place the plurality of deflection sub-coils (14,33,13 of fig 4 and 2,13 of fig 3). As stated above in the rejection of claim 7, Dossot et al. do not disclose the plurality supports having a plurality of sub-protrusions corresponding to a plurality of pin sub-holes in the vertical coil. Park does disclose a plurality of supports (46 of fig 8) having a plurality of sub-protrusions (45 of fig 8), corresponding to a plurality of pin sub-holes (32 of fig 8). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the plurality of sub-protrusions and pin sub-holes of Park into the deflection yoke of Dossot et al. in order to firmly fix the vertical coil (column 5, line 56).

With regard to claim 9,

Dossot et al. disclose the deflection yoke, wherein the supports are disposed at the end portions of each of the vertical deflection sub-coils (2,13 of fig 3, and 13,33 of fig 4). In the incorporation of the sub-protrusions and pin sub-holes of Park in the rejection of claim 8, the sub-protrusions are disposed upon the supports and thus the pin sub-holes are necessarily disposed at corresponding ones of end portions of each of the vertical deflection sub-coils.

With regard to claim 10,

Dossot et al. disclose the deflection yoke. As stated above in the rejection of claim 7, Dossot et al. do not disclose the plurality supports having a plurality of sub-protrusions corresponding to a plurality of pin sub-holes in the vertical coil. Park does disclose the plurality of supports having a plurality of sub-protrusions (45,46 of fig 10) corresponding to a plurality of pin sub-holes in the item to be supported (30,32 of fig 10), and, to attach the item to be supported, the insertion of the sub protrusions into the corresponding sub-pin holes (fig 10). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the plurality of sub-protrusions and pin sub-holes of Park into the deflection yoke of Dossot et al. in order to firmly fix the vertical coil (column 5, line 56 of Park).

With regard to claim 11,

Dossot et al. disclose the deflection yoke, wherein the support comprises a first portion coupled to the coil separator (14 of fig 4), a second portion extended from the first portion in an radial direction of the coil separator (center of 33 of fig 4), and a third portion extended from the second portion in a circular direction of the coil separator (33 of fig 4, to the end 34 of 33 of fig 8).

With regard to claim 12,

Dossot et al. disclose the deflection yoke. As stated in the rejection of the above claims, Dossot does not disclose the supports having protrusions. Park does disclose the supports having protrusions (45,46, of fig 8). Given the configuration of the support (in three parts), separator, and vertical coil, as disclosed in fig 4 of Dossot et al, noted in the rejections of claims 11,7 above, and the configuration of the support, protrusion, pin hole and member to be supported, as disclosed in fig 10 of Park, noted in the rejections of claim 7 above, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the at least one protrusion, disclosed in Park, on the third portion of the support to face one of the screen portion and the neck portion, disclosed in Dossot et al., in order to firmly fix the vertical coil (column 5, line 56 of Park).

With regard to claim 13,

Dossot et al. disclose the deflection yoke, wherein the third portion of the support is a free end (33 of fig 4).

With regard to claim 14,

Dossot et al. disclose the deflection yoke wherein the vertical deflection coil comprises: a portion disposed between the third portion of the support and the coil separator (4 and 33 of fig 4).

With regard to claim 15,

Dossot et al. disclose the deflection yoke. As in the above rejection of claims 14, 11, 7, Dossot discloses neither the support having protrusions nor the item to be supported having pinholes. Park does disclose the support having protrusions and the item to be supported having pinholes, wherein the protrusion is inserted into the pin hole when the portion of the member to be supported is inserted into the position wherein it receives support (30, 32, 45, 46 of fig 10). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the protrusion and the pin hole, as disclosed by Park, into the deflection yoke of Dossot et al. in order to firmly fix the vertical coil (column 5, line 56 of Park).

With regard to claim 17,

Dossot et al. disclose the deflection yoke. As in the above rejection of claim 7, Dossot discloses neither the protrusions nor the pinholes. Park does disclose the protrusion comprising: an inclined surface inclined with respect to a direction in which the item to be attached is disposed to be coupled to member from which the protrusion extends; and a hook surface (45 of fig 10) on which the protrusion is disposed when the item to be attached (30 of fig 10) is completely coupled to the member from which the protrusion extends so as to firmly couple the item to be attached to the member from which the protrusion extends (11b of fig 10). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the protrusion and the pin hole, as disclosed by Park, into the deflection yoke of Dossot et al. in order to firmly fix the vertical coil (column 5, line 56 of Park).

With regard to claim 19,

Dossot discloses the deflection yoke. As stated in claim 18 above, Dossot et al. do not disclose a ferrite coil having a plurality of ferrite sub-coils each having assembling grooves, wherein the coil separator comprise a plurality of assembling projections corresponding to respective assembling grooves. Park et al. do disclose a ferrite coil having a plurality of ferrite sub-coils (two sections of 4 of fig 6) each having assembling grooves (6's of fig6), wherein the coil separator comprise a plurality of assembling projections disposed in assembling grooves when the ferrite sub-coils are attached to the vertical deflection coil (8's of fig 6). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the assembling groove and projection disclosed in Park et al. into the deflection yoke of Dossot et al. in order to improve the assembly of the ferrite coil and separator (column 1, lines 9-10 of Park et al.).

With regard to claim 20,

Dossot et al. disclose a deflection yoke comprising: a coil separator having a screen portion, a neck portion, and a connection portion (2 of fig 1), having first supports formed on the screen portion (13 of fig 4), and having second supports formed on the neck portion (33 of fig 4); and a plurality of vertical deflection sub-coils disposed on an outside of the coil separator to generate a vertical magnetic field, having a screen bent portion and a neck bent portion (4 of fig 4). As in the rejection of the previous claims, Dossot et al. do not disclose the supports having protrusions, nor the item being supported having pin holes corresponding to the protrusions. Park does disclose the supports having protrusions (45, 46 of fig 10) and the item being supported having pin holes corresponding to the protrusions (30,32 of fig 10). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the supports having protrusions and the item to be supported having pin holes, as disclosed by Park, into the deflection yoke of Dossot et al. in order to firmly fix the vertical coil (column 5, line 56 of Park).

With regard to claim 22,

Dossot et al. disclose a display device having a deflection yoke, comprising: a coil separator having a screen portion, a neck portion, and a connection portion formed between the screen portion and the neck portion (2 of fig 1), having first supports formed on the screen portion (13 of fig 4), and having second supports formed on the neck portion (33 of fig 4); and a plurality of vertical deflection sub-coils disposed on an outside of the coil separator to generate a vertical magnetic field, having a screen bent portion and a neck bent portion (4 of fig 4). As in the rejection of the previous claims, Dossot et al. do not disclose the supports having protrusions, nor the item being supported having pin holes corresponding to the protrusions. Park does disclose the supports having protrusions (45, 46 of fig 10) and the item being supported having pin holes corresponding to the protrusions (30,32 of fig 10). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the supports having protrusions and the item to be supported having pin holes, as disclosed by Park, into the deflection yoke of Dossot et al. in order to firmly fix the vertical coil (column 5, line 56).

3. Claims 6,16,18,21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dossot et al. and Park as applied to claims 5,7,20 above, and further in view of Park et al. (US Patent 6509681).

With regard to claim 6,

Dossot et al. disclose the deflection yoke. Dossot et al. do not disclose the deflection yoke wherein the coil separator comprises an assembling projection, and the ferrite core comprises an assembling groove corresponding to the assembling projection. Park et al. do disclose a deflection yoke wherein the coil separator comprises an assembling projection (8 of fig 5), and the ferrite core comprises an assembling groove (6 of fig 5) corresponding to the assembling projection. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the assembling groove and projection disclosed in Park et al.

into the deflection yoke of Dossot et al. in order to improve the assembly of the ferrite core and separator (column 1, lines 9-10).

With regard to claim 16,

Dossot et al. disclose the deflection yoke. Dossot et al. do not disclose a ferrite coil having a plurality of ferrite sub-coils each having assembling grooves, wherein the coil separator comprise a plurality of assembling projections corresponding to respective assembling grooves, and the assembling projections are extended in a radial direction of the coil separator. Park et al. do disclose a ferrite coil having a plurality of ferrite sub-coils (two sections of 4 of fig 6) each having assembling grooves (6's of fig 6), wherein the coil separator comprise a plurality of assembling projections corresponding to respective assembling grooves, and the assembling projections are extended in a radial direction of the coil separator (8's of fig 6). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the assembling groove and projection disclosed in Park et al. into the deflection yoke of Dossot et al. in order to improve the assembly of the ferrite coil and separator (column 1, lines 9-10 of Park et al.).

With regard to claim 18,

Dossot et al. disclose the deflection yoke. Dossot et al. do not disclose a ferrite coil having a plurality of ferrite sub-coils each having assembling grooves, wherein the coil separator comprise a plurality of assembling projections corresponding to respective assembling grooves. Park et al. do disclose a ferrite coil having a plurality of ferrite sub-coils (two sections of 4 of fig 6) each having assembling grooves (6's of fig 6), wherein the coil separator comprise a plurality of assembling projections corresponding to respective assembling grooves (8's of fig 6). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the assembling groove and projection disclosed in Park et al. into the deflection yoke of Dossot et al. in order to improve the assembly of the ferrite coil and separator (column 1, lines 9-10 of Park et al.).

With regard to claim 21,

Dossot et al. disclose the deflection yoke, further comprising: a ferrite core covering the vertical deflection coil (column 2, lines 13-14, and 5 of fig 1). Dossot et al do not disclose a deflection yoke further comprising the ferrite core having a plurality of assembling grooves, wherein the coil separator comprises: a plurality of assembling projections inserted into corresponding ones of the assembling grooves when the ferrite core is completely attached to the vertical deflection coil. Park et al. do disclose a deflection yoke further comprising the ferrite core having a plurality of assembling grooves (6's of fig 6), wherein the coil separator comprises: a plurality of assembling projections inserted into corresponding ones of the assembling grooves when the ferrite core is completely attached to the vertical deflection coil (8's of fig 6). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the assembling groove and projection disclosed in Park et al. into the deflection yoke of Dossot et al. in order to improve the assembly of the ferrite core and separator (column 1, lines 9-10).

Conclusion


4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Korean Patent 356299.
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Raabe whose telephone number is 571-272-8434. The examiner can normally be reached on m-f 7-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CR


ASHOK PATEL
PRIMARY EXAMINER